

From: Frank Kelly [frank@nexustax.com]
Sent: Thursday, April 17, 2008 1:52 PM
To: Rushenberg, Tim; 'Shaw Friedman'; TAtherton@boselaw.com; 'Marilyn Meighen'
Cc: 'Josh Pettit'; 'Jeff Wuensch'
Subject: Wilcoxon Mann Whitney tests etc.

Attachments: WMW tests.zip
Greetings,

Please find attached the Wilcoxon-Mann-Whitney (WMW) test formulations in the various denoted tabs, as well as separate median percentage change calculation in some instances.

Please keep in mind that the assessed value utilized is that in existence at the time of the initial ratio study. Also:

Any improved RES parcel that sold in 2004-5-6 is listed as a "Y" in the test; "N" for UNSOLD. Sales prices are for valid improved RES in the various townships, per the sales disclosure database. Ranks and median percentage changes are based on the percentage change in AV between 2005 and 2006.

The second tab of the spreadsheet is a simple example of an area or stratum with an underlying population that differs somewhat in terms of assessed value. The example shows that if the two groups sell at different rates and there's some variation in underlying assessments and/or if the various subgroups change in value by varying percentages, the WMW test will give a false indication of sales chasing.

In the example, all parcels in each group are adjusted by the same amount (10% increase for the low value parcels –sold and unsold- vs. 25% increase for the higher valued parcels – sold and unsold-). The example somewhat replicates the situation in entirety of Michigan TWP, indicating that the appropriate strata is not the entire township, but more homogeneous subgroups. Hopefully based on the example, the parties can agree that the WMW test is indeed impacted by lack of homogeneity in assessments if those parcels sell at differing rates.

Regards,
Frank Kelly